Purpose of this report

The purpose of this report is to provide feedback to the neonatal-perinatal medicine community regarding content areas of strength and weakness, information which may be useful for identifying potential gaps in knowledge and guiding the development of educational materials. Using data from the American Board of Pediatrics' (ABP) Maintenance of Certification Assessment for Pediatrics (MOCA-Peds), this report summarizes diplomate performance on the questions within each of the 46 content areas assessed in 2022.
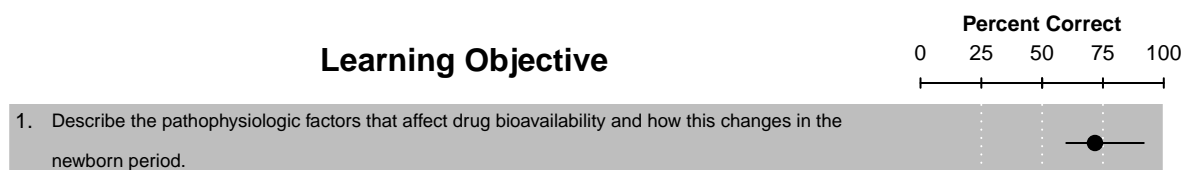
MOCA-Peds content areas

In 2022, *MOCA-Peds—Neonatal-Perinatal Medicine* consisted of questions from a total of 46 content areas, broken down as follows:

- *45 learning objectives*[1] — Each diplomate initially received one question from each of the 45 specific content areas drawn from the neonatal-perinatal medicine content outline.

- *One featured reading*[1] — Each diplomate also received two questions associated with the 2022 featured reading (eg, clinical guideline, journal article).

A pool of questions was developed for each learning objective and for each featured reading. Questions were then drawn from the pool and administered to diplomates throughout 2022 according to the specifications described in the bulleted list above.

Understanding this report

This report provides a graphical summary of diplomate performance on each of the 46 content areas assessed in 2022. Within the graphic and in the example below, the point (•) reflects the average percent correct for all questions within that learning objective or featured reading. The bar (—) reflects the range of percent correct values for the questions within that learning objective or featured reading. More specifically, the bar's lower endpoint indicates the most difficult question (ie, answered correctly by the lowest percentage of diplomates) and the bar's upper endpoint indicates the easiest question (ie, answered correctly by the highest percentage of diplomates).

Learning Objective	Percent Correct
1. Describe the pathophysiologic factors that affect drug bioavailability and how this changes in the newborn period.	

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[1]Each diplomate also received 15 "repeat" questions selected from their original subset of learning objective and featured reading questions. Performance on the repeat administrations is not included in this report.

A note of caution

Many factors (eg, specific content of the question, wording of the question, plausibility of the incorrect answers) can impact diplomate performance on any question. It is thus difficult to determine if poor performance on a single question, or small set of questions, within a given content area reflects a true gap in diplomate knowledge or if the question(s) associated with that content area were difficult for other reasons (or some combination of both). Collectively, the entire set of MOCA-Peds questions (across all content areas) constitutes a psychometrically valid assessment of the diplomate's overall level of knowledge. Performance within a given content area is based on fewer questions, however, and is therefore less useful for making inferences about diplomate knowledge in that specific content area.

It is important to note again that for security reasons, a pool of questions was developed for each content area so that each diplomate received a unique set of questions. In addition, the number of questions can vary from one content area to the next. In cases where a content area had a relatively large pool of questions, the number of diplomates who answered each question was reduced, which diminished the statistical precision of each question's percent correct value. In cases where a content area had a relatively small number of questions, each question was answered by a larger number of diplomates, but the overall breadth of the content being assessed within that content area was constrained, which limits the generalizability of the results.

In other words, MOCA-Peds was designed to assess individual diplomates with respect to their overall level of knowledge in neonatal-perinatal medicine. It was not designed to provide the pediatric community with diagnostic feedback pertaining to specific content areas within neonatal-perinatal medicine. The results within this report may be informative and useful for that secondary purpose, but they should be interpreted with a degree of caution.

Additional notes

- To protect the security of the content of the assessment, the questions themselves, along with information about the number of questions in the pool for any particular learning objective or featured reading, are not provided in this report.

- This report contains data aggregated across many diplomates participating in the MOCA-Peds program and cannot be used to make inferences or draw conclusions regarding any particular diplomate.

2022 Content Area Feedback Report
Neonatal–Perinatal Medicine

Learning Objective | **Percent Correct** (scale 0, 25, 50, 75, 100)

1. Describe the pathophysiologic factors that affect drug bioavailability and how this changes in the newborn period.
2. Recognize the clinical manifestations of neonatal Chlamydia infections.
3. Understand the concept of number needed to treat when utilized to describe therapeutic interventions.
4. Know the heritable syndromes associated with neonatal hyperbilirubinemia and their related mechanism(s).
5. Recognize the clinical features of congenital and acquired intestinal atresia.
6. Compare cerebrospinal fluid cell counts and chemistries for infants with and without meningitis.
7. Differentiate the risk factors, causes, and management of congenital versus acquired hearing loss.
8. Recognize the characteristics of newborn infant neutrophil function and how development affects susceptibility to infection.
9. Know how to evaluate and manage different causes of neonatal birth depression.
10. Identify the clinical and diagnostic features of the common neuromuscular disorders in the newborn infant and their therapies and consequences.
11. Recognize the clinical features of anomalies of the kidney and urinary tract.
12. Formulate a differential diagnosis of a neonate with a left–sided cardiac obstructive lesion.
13. Evaluate and manage a neonate with vitamin deficiency.
14. Differentiate the clinical manifestations of mitochondrial from other causes of serious neonatal illness.
15. Know the indications for, techniques, and potential complications of chest compression immediately after birth.
16. Recognize the presentation and treatment of congenital adrenal hyperplasia.
17. Recognize the clinical and laboratory features of essential fatty acid deficiency.
18. Plan the evaluation and management of a newborn infant with conjugated hyperbilirubinemia.
19. Assess factors regulating the pulmonary circulation during the perinatal transitional period.
20. Understand the implications of ultrasonographic findings associated with fetal gastrointestinal abnormalities.
21. Lower versus Traditional Treatment Threshold for Neonatal Hypoglycemia (Featured Reading)
22. Describe an appropriate cytogenetic evaluation plan for the family and infant with a structural chromosomal abnormality.
23. Recognize complications related to air leak in the thorax and discuss their prevention and management.
24. Recognize the laboratory, imaging, and other diagnostic features of an infant with a condition affecting myocardial performance.
25. Demonstrate knowledge of and expertise in neonatal resuscitation using NRP guidelines.
26. Describe the indications for and techniques of mechanical ventilation.
27. Differentiate the clinical manifestations of disorders of organic acid metabolism from other causes of serious neonatal illness.
28. Know the clinical features and inheritance patterns of common syndromes or associations that can be recognized in the newborn period (for example, VATER, DiGeorge).
29. Plan the evaluation and management of a newborn infant born to a mother with a substance use disorder.
30. Recognize the importance of iron accretion, metabolism, and its relevance to neurodevelopmental outcomes.
31. Know the causes, diagnosis, therapy, and outcomes for neonatal seizures.
32. Recognize the physiologic consequences of an arrhythmia in a fetus or newborn infant.
33. Know the rationale and methods for early identification of infants at high risk of cerebral palsy.
34. Develop a management plan for an infant with leukopenia.
35. Recognize syndromes that are associated with skin lesions such as port wine stains and café au lait spots.
36. Describe the indications, limitations, and techniques for newborn screening for genetic disorders.
37. Know the causes, diagnosis, therapy, and outcomes for neonatal cerebrovascular accidents.
38. Know the effects of neonatal critical illness on parental mental health and how this may affect parent–infant interactions.
39. Know the caloric requirements for optimal postnatal growth of preterm infants.
40. Recognize the risk factors and differential diagnosis of PPHN.
41. Identify the maternal factors, clinical presentation, and neonatal outcomes of placental abruption.
42. Manage, diagnose, and prevent neonatal fungal infections.
43. Compose a comprehensive plan to support a family anticipating the birth of a newborn infant with a fatal condition.
44. Describe the clinical presentation and management of neonates with Hirschsprung disease and other anorectal anomalies.
45. Understand and apply the physiologic principles necessary for the effective management of neonatal mechanical ventilation.
46. Understand the importance of fetal lung fluid during lung development and its role in perinatal adaptation in the fetus and newborn infant.

Sample: Included in the sample were all diplomates who have answered at least one question in 2022 (N = 2,771).